



ART. XIV. NEW AND RARE ITHOMIINAE (LEPIDOPTERA)  
IN THE CARNEGIE MUSEUM

BY RICHARD M. FOX  
READING PUBLIC MUSEUM  
READING, PENNSYLVANIA

(ONE PLATE)

Through the kindness of Dr. Avinoff and Dr. Sweadner, I have been able to examine the Carnegie Museum's collection of *Ithomiinae* (*Nymphalidae*) and to work through the undetermined material. The collection itself was arranged by Dr. Avinoff some years ago, and at that time he set aside several species as probably new. Some of them are described here; others have been identified as obscure or recently described species. All types are in the collection of the Carnegie Museum.

**Melinaea maelus purusana** Riley

(Plate I, figure 1)

Riley, 1919, *Entomologist*, 52: 181 (Allianca, Rio Purus).

*M. madeira purusana* Aurivillius, 1929, *Ent. Tidskr.*, 50: 155 (Hyutanahan, Rio Purus).

The figure is of a male, one of a series captured at Hyutanahan and Nova Olinda, Rio Purus, Brazil, by Samuel M. Klages and now in the Carnegie Museum. Judging by the descriptions, the species of Riley and of Aurivillius are identical; the specimen here figured comes from the same locality as the Aurivillius type. By coincidence, Aurivillius published his species as new, using the same name which had been applied to it ten years earlier by Riley. I have not seen anything to which the name *Melinaea hicetas brunnea* Riley, 1919, might be applied. It is possible that *M. brunnea* is not a form of *M. maelus*, but belongs to another species, a theory only, as the description is terse, but I gather from it that the light spot of the anal angle is wanting on the upper side, whereas it is always present in forms of *maelus*.

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*Hypothyris meterus deëmae*, subsp. nov.

(Plate I, figure 8)

Hewitson's *Mechanitis meterus*<sup>1</sup> appears in Haensch's work in Seitz, 1909, as a *Mechanitis*. Forbes<sup>2</sup> first recognized its true place as a species in *Hypothyris*, although he was forced to base his judgment on published illustrations. Two females of this apparently rare species were collected by Woytkowski for the Carnegie Museum, in the Department of San Martin, Peru; they agree in detail with Hewitson's figure, and beyond question belong in *Hypothyris*.

Two females of a subspecies of *meterus* have come to me, one collected near San Pedro, Peru, by Woytkowski for the Carnegie Museum; the other from the Rio Jatunyan (Jatun yacu?), eastern Ecuador, probably collected by Macintyre, sent to me by the U. S. National Museum. These two specimens have the two yellow, submarginal dots characteristic of *meterus*, and agree with it in the arrangement of black markings on the fore wing; the hind wing black is broken into its components, however. The two females here described as *deëmae* may prove to be separate races, but I do not feel justified by the material at hand in making a division between them at present. A yellow, postdiscal band is present in the fore wing, a variation to be expected of the pattern and comparable to the differences between the patterns of the two subspecies of *Mechanitis mazaesus*, *M. deceptus* Butler and *M. messenoides* Felder.

*Female*: Fore wing above with entire apical portion broadly black, its proximal boundary an irregular line running diagonally across the wing from just beyond the beginning of  $R_2$  to the middle of  $M_3-Cu_1$ , there connected with a black projection comparable to the comma mark in *Mechanitis*, but its end rounded, not hooked, lying just behind  $Cu_1$ , its marginal part wider. Two small, round, yellow, submarginal spots puncture this black, one between  $M_3$  and  $Cu_1$ , the other between  $Cu_1$  and  $Cu_2$ . Costal margin narrowly black; a black streak over the basal half of  $Sc$ ; a wedge-shaped, black spot in the cell; a very small or faintly indicated black spot in the base of  $Cu_1-Cu_2$ ; two discocellular spots, separated, small; a black streak over the anal vein and along the hind margin to about two-thirds of the distance to the anal angle. In the type specimen, the anal streak is broader, the streak over  $Sc$  is shorter, the cell spot is continued to the base and there is another short streak just below the base

<sup>1</sup> Hewitson, 1860, Exot. Butt., 2: *Mechanitis*, 15.

<sup>2</sup> Forbes, 1924, Journ. N. Y. Ent. Soc., 32: 155.

of the radius. A yellow, postdiscal fascia extending proximad as far as the discocellulars and  $Cu_1$ .

Hind wing, black and tawny. A wide, black, costal streak from the base to the end of the cell, including the proximal half of the cell and covering  $Sc$ ; a black streak in the cell above  $M_3-Cu_1$ , wanting in the paratype; veins along the posterior side of the cell always tawny. Posterior of the cell a large, black spot running to the margin. In the type specimen this is separated by a narrow, tawny line into a median band and a submarginal-marginal band; in the paratype, instead, tawny cuts off the median-submarginal black from the marginal line as far as  $Cu_2$ . The distal margin narrowly black; the rest of the wing tawny. A suggested black spot  $R-M_1$ , midway between discocellulars and wing apex, narrow.

Fore wing beneath as above; a limited friction area behind the anal vein. Hind wing beneath as above; costal margin narrowly tawny; humeral angle yellow.

Antennae yellow, black at the base; head black with yellow-white spots; collar and patagia tawny; proximal leg segments with yellow scaling; abdomen black-brown above, yellow beneath.

*Male*: A male of this form was recently sent to me by Mr. F. M. Brown. It agrees in detail with the type. The hair patch is characteristic of *Hypothyris*, as are the genitalia. I designate this male, which comes from Sani Beni, Peru, through the Brown collection, and is now in the American Museum of Natural History (genitalia slide, no. 432), as the "allotype."

*Type*: Female; vicinity of San Pedro, Peru; June 1-5, 1935; 900 m.; Woytkowski; Carnegie Museum.

*Paratype*: Female; Rio Jatunyan, eastern Ecuador; Dec. 27, 1936; U. S. National Museum.

### ***Hyaliris deuscula*, sp. nov.**

(Plate I, figure 2)

This is readily distinguished from *coeno*, Doubleday and Hewitson,<sup>3</sup> by the brown antennal clubs, the yellow scaling on the fore wing, and the yellow tinge on the humeral spot; in *coeno* the antennae are entirely black, the fore wing transparent areas are very slightly whitish, and the humeral

<sup>3</sup> Doubleday & Hewitson, 1847, Gen. Diurn. Lep., 1: 127; pl. 18, fig. 2 (Venezuela).

spot is gray-white. *H. atagalpa* Haensch,<sup>4</sup> *H. latilimbata* Weymer,<sup>5</sup> and *H. statilla* Hewitson,<sup>6</sup> are all more or less similar to the present species, but in all of them the humeral spot is confined proximad of the humeral vein, while in *deuscula* and *coeno* it crosses the vein and is, consequently, elongated, not round. *H. deuscula* is found in the Venezuelan mountains around Caracas, apparently at relatively high altitudes; probably it has been confused with *coeno* in collections.

*Male*: Costal margin of fore wing black, at the base extending in to the radius, but narrowing somewhat a few millimeters out, so that a transparent streak appears between the radius and Sc, and only narrowly black from cell apex to wing apex, the bases of the radial cells being transparent-blackish; distal margin uniformly black, about 1.5 mm. wide, its proximal edge not very sharply defined, with black scaling running in to the transparent part of the wing; anal margin behind the cubitus black, narrowing toward the anal angle so that there is a transparent area below Cu<sub>2</sub>. A row of small, round, gray-white, submarginal spots between the veins, R<sub>4</sub> to Cu<sub>2</sub>, placed at the inner edge of the border. Rest of wing transparent, very lightly yellowish near the base; all veins narrowly black.

Hind wing with a straw-gray hair pencil on a pearly-black friction area; distal margins a little wider than on the fore wing, about 3 mm. wide at Cu<sub>1</sub>, rather even from apex to anal angle, where it narrows to a slender line along the anal margin; inner edge of border color indefinite, leaving a transparent-black stripe along its proximal side; five small, white spots in the middle of the border, a little stronger than those of the fore wing, between the veins R to Cu<sub>2</sub>, and sometimes an additional pair behind Cu<sub>2</sub>; in the transparent-black stripe the veins are thickened slightly with opaque black scales; within this stripe the transparent wing is clouded with sulphur-yellow, but not heavily; the veins here are narrowly black.

Beneath, the fore wing is exactly like the upper side, except that generally there is an additional, white, submarginal spot behind Cu<sub>2</sub>, and the anal margin is a pearly-black friction area. Hind wing is as above; the costal margin black, including the radius itself, but very little of the anterior side of the cell; a gray to yellow-white spot on the humeral angle,

<sup>4</sup> Haensch, 1905, Berl. Ent. Zeit., 50: 156 (Cuzco, Peru).

<sup>5</sup> Weymer, 1890, in Stübel, Lep. Reiss S. Amer.: 105; pl. 2, fig. 8 (LaViña, Peru).

<sup>6</sup> Hewitson, 1874, Exot. Butt., 5: *Ithomia*, 217 (Chanchamayo).

surrounding the black humeral vein; the extreme base of the hind wing is blackened, visible from above as well.

*Female*: Like the male, but the margins of both wings are slightly broader, so that the submarginal spots of the fore wing are entirely surrounded by black, especially at the apex; sulphur-yellow clouding of the transparent areas a little stronger than in the male, particularly on the hind wing; costal margin of hind wing, between the black radius and the narrow, black line on the margin itself, pearly white, extending out just beyond the cell apex. In one female paratype, on the hind wing above in the position where the submarginal spot between the anals would appear, there are some tawny scales, scarcely noticeable.

Antennae black, the clubs dark reddish-black; head and thorax black with white markings; abdomen black-brown above, ashen beneath.

*Holotype*: Male; Pie de Cerro, Aragua, Venezuela; 2700-3700 ft.; June 9, 1929; Ernest G. Holt; genitalia slide, no. 252, Carnegie Museum.

*Allotype*: Female; Pie de Cerro, (La Victoria), Aragua, Venezuela; May 6, 1929; Holt Expedition; Carnegie Museum.

*Paratypes*: Three males, same data as the holotype; two of them in the Carnegie Museum, one in the Reading Museum collection. Eight females with same data as the allotype, seven of them in the Carnegie Museum, one in the Reading Museum collection. One female; Colonia Tovar, Aragua, Venezuela; 6000-7000 ft.; Holt Expedition; Carnegie Museum.

### ***Hyalýris munda*, sp. nov.**

(Plate I, figure 3)

I cannot immediately associate this with any of the known species, though genitalic analysis probably would establish its relationship, hence I assign *munda* the status of a species, probably temporarily. It has the general appearance of *coeno*, Doubleday & Hewitson (*loc. cit.*), from which it is immediately separated by the lack of the spot on the humeral lobe, by the yellow-brown clubs of the antennae, and by the sharply defined and peculiarly shaped margins of the hind wing. There are traces of red scaling in the anal angle of the hind wing.

*Female*: Fore wing transparent with velvety black margins, black veins, and a whitish hue on the disc. Seven submarginal spots placed in the middle of the border, R<sub>4</sub> to the anal angle, the posterior four faint and gray-black. Black of costal margin invading the top of the cell slightly opposite Cu<sub>2</sub>; costal margin about 3 mm. wide, quite uniform in width except at

Cu<sub>1</sub>, where it sends a streak along the vein about half-way in to the cell; anal margin behind cubitus-Cu<sub>2</sub>, black, overlaid with white scales between Cu<sub>2</sub> and the anal vein to form a long, indefinite spot; basal half of cell sprinkled with black scales.

Hind wing with a transparent-white spot over the end of the cell, fading into semi-transparent, sulphur-yellow below the cell to the anal margin; borders velvety black with a series of submarginal spots R to 2A, only the one in M<sub>1</sub>-M<sub>2</sub> white, the others gray-black, scarcely visible. Black costal border includes base of wing and the anterior half of the cell; at the discocellulars the black angles down to the middle of M<sub>2</sub>-M<sub>3</sub> (leaving a small transparent-white spot in the base of M<sub>2</sub>-M<sub>3</sub>), then runs to the anal angle in a flat arc; thus, the distal marginal color is 8 mm. broad over M<sub>2</sub>, 7 mm. over Cu<sub>2</sub>; its proximal boundary is clear-cut compared to that of similar species. Between the sulphur-yellow color and the black border in 2A-3A there are traces of red scales, and a little of the adjacent black becomes brownish.

Beneath, both wings exactly as above, the submarginal spots white and strong; red scaling of hind wing present below as well; no spot in humeral lobe.

Antennae black, the clubs orange-brown; head, thorax, and legs black, very few white spots.

*Type:* Female; Vicinity of Pampa Hermosa, Peru; May 1-5, 1935; 1600 ft.; Woytkowski; Carnegie Museum.

### ***Napeogenes astarte*, sp. nov.**

(Plate I, figure 4)

The relationships of the species of the genus *Napeogenes* are so little understood at the present that I hesitate to designate this form as a subspecies of any known species. In general it resembles *N. pyrois* Bates,<sup>7</sup> and *N. pharo* (Felder)<sup>8</sup>, but is not exactly like either. The shadowy cell-bar of the fore wing, the narrow, tawny-red, submarginal line of the hind wing, the black collar and patagia, the antennae with their black shafts and orange clubs with black tips, combine to separate *N. astarte* from any previously described species. The present series of three males comes from the Rio Purus, and was collected by Samuel M. Klages.

<sup>7</sup> Bates, 1862, Proc. Linn. Soc. London, 23: 534-5 (Cupari).

<sup>8</sup> Felder, 1862, Wien. Ent. Monats., 7: 76 (Upper Amazons).

*Male:* Fore wing translucent yellow with black margins: costal margin black from base to end of cell, in as far as and including the radius; connected with the dark, discocellular band which is widest at the costal margin, its proximal edge straight, continued along  $Cu_1$  to the distal margin, its distal edge a gentle curve giving the band in general a wedge-like shape, but this curve is broken over the proximal end of  $M_3$  by a rounded projection into the subapical area; costal marginal black a mere line at the yellow costal spot beyond the cell apex, then greatly widening at the wing apex, cutting across to the distal margin toward the outer end of  $M_2$ - $M_3$ , then proceeding with an even width to the anal angle; entire anal margin behind cubitus- $Cu_2$  connected with a triangular area filling the base of  $Cu_1$ - $Cu_2$ . Except along the radius, the opaque black markings are bordered with transparent-black; transparent-black forms a shadowy bar across the cell opposite the proximal end of  $Cu_2$ ; the posterior end of this cell bar is more opaque. Thus the translucent-yellow is found in a post-discal fascia which just crosses  $M_3$  posteriorad and is connected with the opaque, yellow, costal spot at the other end, and to a fascia which crosses the outer end of the cell and fills most of  $Cu_1$ - $Cu_2$ , the cubital segment being yellow (in one paratype the yellow in  $Cu_1$ - $Cu_2$  is constricted a little in the middle by transparent-black), and to the filling at the base of the cell. The subapical white spots of the under side are faintly visible in the apical black.

Hind wing with a gray hair pencil on a pearly-black friction area; central part of wing transparent-yellow with yellow veins; an opaque, black tooth over the discocellulars, ending at the proximal end of  $M_3$ , set in a narrow band of transparent-black which separates the dark margins from the central area in which veins are black; margins black, 4 mm. wide at  $Cu_1$ , 2 mm. at  $M_2$ , with a tawny-red, submarginal streak set in it between  $Cu_1$  and 2A.

Beneath, the pattern of both wings as above, but the color of the margins different. Some tawny-red scaling at the costal end of the fore wing, discocellular band, in the apex and along the distal margin; three white, subapical spots on the fore wing. Six round, white, submarginal dots on the hind wing, R to 3A, placed on scalloped projections from the otherwise narrowly-black margins. A complete tawny-red, submarginal band running from the apex around to the anal angle, where the entire marginal color ends; this is proximally edged with an opaque, black line which is a little broader at the cubitals. Costal margin and humeral angle tawny-red.

Antennae black, the clubs tawny, but the terminal six or seven segments black; I have not noticed this double coloring of the antennal club in any other species of *Napeogenes*. Head, thorax, and legs, black with white streaks; collar and patagia black, white spotted. Abdomen black-brown above, ashey-white beneath.

*Type*: Male; Arima, Rio Purus, Brazil; Nov. 1922; S. M. Klages; Carnegie Museum (genitalia slide, no. 389).

*Paratypes*: Two males; Hyatanahan, Rio Purus, Brazil; March 1922; Klages. One is in the Carnegie Museum, the other in the Reading Museum.

### ***Oleria bocca* Riley.**

(Plate I, figure 5)

*Leucothyris onega bocca* Riley, 1919, Entomologist, 52: 184 (Bocca de Acre).

*Leucothyris romani* Aurivillius, 1929, Ent. Tdskr., 50: 156-7 (Hyutanahan, Rio Purus).

Although Riley's description is terse, it compares well enough with that of Aurivillius, who seems to have overlooked completely Riley's 1919 paper. Klages collected a small series of males and females at several localities on the Rio Purus; one of the males is illustrated.

### ***Oleria crispinella hemina*, subsp. nov.**

(Plate I, figure 6)

In size and pattern, this is similar to *O. crispinella* Hoppfer<sup>9</sup> and agrees with it genitally. The chief differences are as follows: the straight, not curved, band of the fore wing across the discocellulars and Cu<sub>1</sub>, the slightly narrower border of the hind wing, the absence of smokey-transparent against the hind wing border, and the stronger submarginal spots beneath on both wings.

In passing, it might be noted that Haensch's diagnosis of *O. didymaea* Hewitson in Seitz reads as though it might be the present form; this is entirely misleading for the figure of *didymaea*<sup>10</sup> much more closely resembles *Oleria victorine* Guerin of Bolivia, and *O. graciella* Oberthür of Venezuela, both of which are well known.

*Male*: Fore wings transparent and colorless with black margins and

<sup>9</sup> Hoppfer, 1874, Ent. Zeit. Stettin, 35: 340.

<sup>10</sup> Hewitson, 1876, Exot. Butt., 5: *Ithomia*, 226.



bands and a white-transparent postdiscal band. The entire costal margin anterior of the radius is black, indented by an opaque, white spot beyond the end of the cell; a narrow, black, cell bar placed a little proximad of  $Cu_2$ ; discocellular bar broad, 4 mm. at the costa, continued across the base of  $M_3-Cu_1$  and along  $Cu_1$  to the distal margin in the end of  $Cu_1-Cu_2$ , its distal end being about 1.5 mm. wide near the margin; this whole band gradually tapers from the costa and both edges of it are straight. Distal margin and broad apex black, 2 mm. at  $M_3$  to  $Cu_2$ . Thus the major part of the cell and most of  $Cu_1-Cu_2$  is transparent and colorless; the cubital segment is black. Continuous with the white costal spot is a suboval, transparent area, its proximal edge straight, containing a narrower transparent-white band in which the veins are white.

Hind wing transparent, borders black-brown, 2 mm. wide at  $M_3$  and tapering to a point in the anal angle; transparent area dusted with very faint whitish which is a little stronger against the marginal color; no smokey-transparent band within the margin.

Beneath, the costal margin of the fore wing is red-brown bordered on each side with black; a red-brown band swings around the apex within the black and runs evenly down the distal border; a few red-brown scales in the discocellular band; some faint, white, double spots over the veins in the terminal black of the apex. Humeral lobe and costal margin anterior of Sc of the hind wing red-brown, slightly more yellow than in the fore wing; a similar submarginal band edged proximad with black in the distal margin; blue-white, double marginal spots over the veins, stronger at the apex, faint toward the anal angle.

Antennae black-brown; head, thorax, and legs, black-brown, spotted white; abdomen black-brown above, ashen beneath.

*Type*: Male; Lower Rio Mamore, Bolivia; Steinbach; Dec. 1913; genitalia slide, no. 342; Carnegie Museum.

### ***Corbulis xantho inturna* Fox.**

(Plate I, figure 7)

Fox, 1941, Sci. Publ. Reading Museum, 2: 27-8; fig. 6 (Rio Huallaga).

*Dircenna rufa* Forbes, 1942, Jour. N. Y. Ent. Soc., 50: 41, 42-3; fig. 9 (Rioja).

Woytkowski collected a single female of *Corbulis xantho inturna* Fox. This species was described from a unique male collected on the Rio Huallaga, Peru, by Dr. Bassler, which is now in the collection of the

American Museum of Natural History. Compared with the male, this female exhibits the similarities and differences to be expected in the *Dircenna-Callithomia* group, particularly the more rounded apex of the fore wing, and the more emphatic black markings and the greater extent of color suffusion over the hyaline areas of the wings. Since this is the first female I have seen of this subspecies, a description is in order.

*Female:* Fore wing apex more rounded than in the male; costal, apical, and distal margins black-brown just as in the male, but a little wider at the apex and the distal margin toothed below  $Cu_1$ ; discocellular band much stronger than in the male and continued over  $Cu_1$  to the margin, with  $M_3$  blackened narrowly between the margin and the discocellular band; entire anal area posterior of cubitus- $Cu_2$  black-brown, continuous with a long, rounded spot in the cell resting on the cubitus between the base and  $Cu_2$ ; all veins black except  $M_2$  and the basal third of  $M_1$ , which are tawny, and under the yellow costal spot. Remainder of wing hyaline, heavily suffused with russet-tawny, except for an indefinite yellow-scaled spot against the black margin in  $Cu_1$ - $Cu_2$  and similar spots in  $M_2$ - $M_3$ , the anterior outer corner of  $M_3$ - $Cu_1$  and the posterior outer corner of  $M_1$ - $M_2$ ; between these yellow spots and the costal spot there is the faintest suggestion of a yellow fascia.

The disc of the hind wing is hyaline, heavily suffused with russet-tawny, the veins red-orange; margins black-brown, much wider than in the male, especially at the apex, and the border wider from  $Cu_1$  to the anal margin; the abrupt indentation of the margin at  $Cu_1$  reaches two-thirds of the way to the bottom of the cell. Beneath, colored just as in the male, with, of course, the wider black markings and somewhat stronger white, submarginal spots. The antennae and the body characters are exactly as in the male.

Specimen examined: a female; vicinity of Rioja, Department of San Martin, Peru; jungle; 900 m.; September 17, 1936; Woytkowski; Carnegie Museum. Had I seen this specimen a few months earlier I would have designated it the "allotype." However, the original description has been published for some time and there seems no justification under existing usage to designate this female with any particular term.



## EXPLANATION OF PLATE I

All figures in natural size.

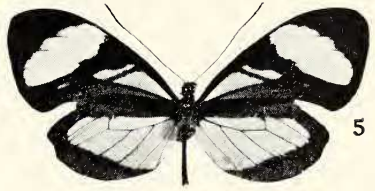
- FIG. 1. *Melinaea maelus purusana* Riley. ♂; Hyatanahan, Rio Purus, Brazil; Klages.
- FIG. 2. *Hyalyris deuscula*, sp. nov. Type, ♂: Pie del Cerro, Aragua, Venezuela; 2700-3700 ft.; June 9, 1929; Ernest G. Holt.
- FIG. 3. *Hyalyris munda*, sp. nov. Type, ♀; vicinity of Pampa Hermosa, Peru; 1600 m.; May 1-5, 1935; Woytkowski.
- FIG. 4. *Napeogenes astarte*, sp. nov. Type, ♂; Hyatanahan, Rio Purus, Brazil; Klages.
- FIG. 5. *Oleria bocca* Riley. ♂; Nova Olinda, Rio Purus, Brazil; Klages.
- FIG. 6. *Oleria crispinella hemina*, subsp. nov. Type, ♂; Lower Rio Mamore, Bolivia; Steinbach.
- FIG. 7. *Corbulis xantho inturna* Fox. ♀; vicinity of Rioja, San Martin, Peru; 900 m.; Sept. 17, 1936; Woytkowski.
- FIG. 8. *Hypothyris meterus deëmae*, subsp. nov. Type, ♀; vicinity of San Pedro, Peru; 900 m.; June 1-5, 1935; Woytkowski.



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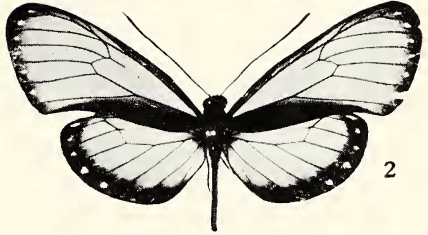
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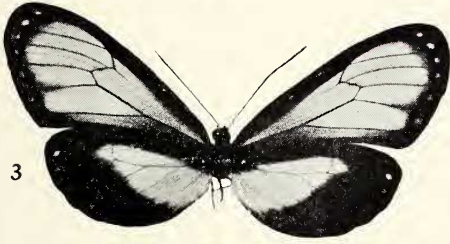
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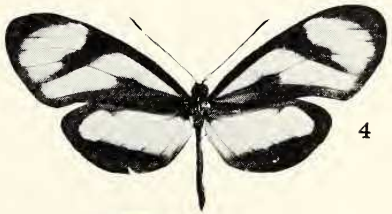
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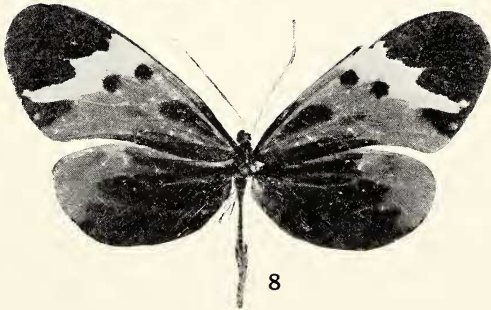
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